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EXAMINER	
FISCHER, JUSTIN R	

ART UNIT	PAPER NUMBER
1791	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/572,549	KANENARI, DAISUKE	
	Examiner	Art Unit	
	Justin R. Fischer	1791	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 May 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *060508*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hashimura (US 2002/0033557, of record) and further in view of Dollinger (WO92/20538, of record), Ohtsuka (JP 2000-290629, of record), and Asahara (US 5532319, of record). Hashimura is directed to a tire laminate comprised of (a) an innerliner formed of a thermoplastic elastomer and (ii) an adhesive composition having a thickness between 1 and 100 microns (Paragraph 34). In describing the adhesive composition, Hashimura gives a plurality of examples and suggests that the adhesive is not particularly limited (Paragraphs 34 and 35). While applicant fails to expressly disclose the use of a thermoplastic elastomer as the adhesive, such a material represents a well known adhesive material that has been previously used to adhere innerliners to additional rubber layers, as shown for example by Dollinger (Page 8, Lines 9-18). It is emphasized that Hashimura specifically states that the adhesive material is not critical and in view of Dollinger, thermoplastic elastomers are recognized as being suitable adhesive materials when bonding innerliners to additional rubber layers. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of

the invention would have found it obvious to form the adhesive material of Hashimura as a thermoplastic elastomer.

As to the tackiness of the adhesive composition, Hashimura suggests that a high tackiness is desired but not so high as to complicate the handling of the assembly (Paragraph 4). One of ordinary skill in the art at the time of the invention would have recognized such language as including adhesive compositions having a tack to a diene rubber of at least 5 N, it being noted that applicant describes a similar rationale in selecting an adhesive that is not overly tacky. Additionally, the adhesive composition of Hashimura, in view of Dollinger, Ohtsuka, and Asahara, is substantially the same as that of the claimed invention- one of ordinary skill in the art at the time of the invention would have expected said adhesive to have similar self tack properties, as compared to the adhesive of the claimed invention. In this regard, applicant has not provided a conclusive showing of unexpected results to establish a criticality for the claimed properties. It is noted that the examples in Table 1 are not persuasive since multiple parameters are varied between respective examples (e.g. components and amounts) and it is unclear if the realized benefits are a result of any single material/amount or a combination of materials/amounts.

In regards to the adhesive composition, it is noted that Hashimura does suggest rubber compositions that are modified with epoxy groups (Paragraph 35). Being that a thermoplastic elastomer is a blend of a thermoplastic resin and a rubber component, one of ordinary skill in the art at the time of the invention would have found it obvious to use such a modified rubber in a thermoplastic elastomer. While the reference fails to

expressly disclose the oxirane oxygen content, the claimed range is consistent with epoxy modified copolymers used in adhesive compositions, as shown for example by Ohtsuka (Abstract)- one of ordinary skill in the art at the time of the invention would have found it obvious to form the epoxy modified copolymer with an oxirane oxygen content between 1 and 3 percent by weight.

Furthermore, Hashimura teaches the inclusion of a tackifier, such as a terpene resin, in said adhesive composition (Paragraph 40). While the reference fails to expressly disclose the molecular weight and the softening point, the broad ranges of the claimed invention are consistent with terpene resins used in adhesive compositions, as shown for example by Asahara (Column 8, Lines 41-45). Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time of the invention would have found it obvious to include a terpene resin in accordance to the claimed invention.

It is additionally noted that the adhesive composition of Hashimura can include an organic peroxide (Paragraph 36). One of ordinary skill in the art at the time of the invention would have expected the peroxide of Hashimura to have a half life temperature in accordance to the claimed invention since it is identical to that disclosed by the claimed invention (e.g. 2,5 dimethyl-2,5-di(t-butylperoxy)hexane).

Lastly, with respect to the independent claim, the use of stearic acid, oleic acid, or metal salts (internal mold release agents) in tire compositions, including adhesives, is extremely well known and conventional to provide a high degree of adhesion. Absent any conclusive showing of unexpected results, one of ordinary skill in the art at the time

of the invention would have found it obvious to include any of the above noted mold release agents. It is further noted that the rationale for including such a well known additive does not have to be the same as that disclosed by applicant.

Regarding claims 3 and 9, the thermoplastic resin of the innerliner can be a polyamide (Paragraph 17).

As to claims 4 and 10-12, Hashimura suggests the use of brominated isobutylene-p-methylstyrene (Paragraph 20).

With respect to claims 5, 6, 13, and 14, Hashimura suggests the use of dipentine resins or other terpene resin and aromatic hydrocarbon modified terpene resins (Paragraph 40).

As to claims 7 and 15-19, Hashimura suggests the use of 2,5 dimethyl-2,5-di(t-butylperoxy)hexane (Paragraph 36).

Response to Arguments

3. Applicant's arguments filed May 12, 2008 have been fully considered but they are not persuasive.

Applicant initially contends that Examples 1-3 demonstrate excellent cylindrical molding workability, while the results of Example 4 are not excellent. First, Example 4 is not seen to constitute the closest prior art of record. In particular, Hashimura broadly suggests the inclusion of any known tackifier commonly used in adhesive compositions. A more persuasive showing of unexpected results might be a comparison between compositions having terpene resins in accordance to the claimed invention and those not in accordance to the claimed invention (terpene resins with different molecular

weight and/or different softening points). Additional comparisons might include compositions including tackifiers different from the claimed terpene resin. Second, it is noted that Example 4 demonstrates a suitable cylindrical molding workability (suitable extrudability and only "minor" problem in sticking- described as an inventive example).

Applicant further contends that Hashimura fails to remotely suggest the use of a specified terpene resin in combination with an epoxy modified styrene butadiene based copolymer. As detailed above, however, Hashimura suggests the use of a modified styrene copolymer and a tackifier in the form of a terpene resin (Paragraphs 35 and 38). It is further noted that the polymer forming the main component of the adhesive can be selected from any of the known polymers. One of ordinary skill in the art at the time of the invention would have found it obvious to select a thermoplastic elastomer as it represents a known adhesive (constitutes a known polymer to form main component) used to bond innerliners to additional rubber components, as shown for example by Dollinger. Furthermore, a thermoplastic elastomer is recognized as including a rubber component and a thermoplastic resin- the particular use of a modified styrene butadiene copolymer as the rubber component is consistent with Hashimura and conventional adhesive compositions. In this regard, applicant has not provided a conclusive showing of unexpected results for the combination of a specified terpene resin and a modified styrene butadiene copolymer.

Applicant argues that Ohtsuka fails to suggest or disclose the aforementioned combination. In this instance, though, the reference is used to evidence the common oxirane oxygen contents in epoxy modified copolymers.

Regarding Asahara, applicant similarly argues that the reference fails to suggest or disclose the aforementioned combination. Again, the reference is solely provided to evidence the known molecular weights and softening points of terpene resins commonly used in adhesive compositions. It is emphasized that Hashimura suggests an adhesive composition having a modified styrene copolymer and a terpene resin- in forming a thermoplastic elastomer, which is recognized as including a rubber component, one of ordinary skill in the art at the time of the invention would have found it obvious to the modified styrene copolymer disclosed by Hashimura.

Lastly, applicant contends that the mere fact that cited art may be modified in the manner suggested in the Office Action does not make this modification obvious, unless the cited art suggests the desirability of the modification or impliedly suggests the claimed invention, or the Examiner must present a convincing line of reasoning as to why the artisan would have found the claimed invention to have been obvious in light of the teachings of the references. As detailed above, Hashimura suggests the use of any known adhesive material (main component) and further teaches that the adhesive material is not critical. Thus, one of ordinary skill in the art at the time of the invention would have been motivated to use a wide variety of adhesive compositions, including thermoplastic elastomers. It is particularly noted that Dollinger specifically recognizes the known use of thermoplastic elastomer adhesives to bond or join innerliners to additional tire rubber components. In view of the general direction of Hashimura, one of ordinary skill in the art at the time of the invention would have looked to adhesive compositions used in innerliner assemblies- thus, the use of a thermoplastic elastomer

(as the main component) would have been well within the purview of one of ordinary skill in the art at the time of the invention.

Conclusion

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Justin R. Fischer** whose telephone number is **(571) 272-1215**. The examiner can normally be reached on M-F (7:30-4:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Crispino can be reached on (571) 272-1226. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Justin Fischer
/Justin R Fischer/
Primary Examiner, Art Unit 1791